Article published on June 8th 2012 | Home Improvement

Before answering the question on 'what is an air conditioner' let me say that I will be dealing mainly with 'split air conditioners'. Splits consist of two principal parts, an indoor unit, and an outdoor unit. There are of course many other types, such as 'through the window' 'central air conditioners ' which involve the use of ducting, fully portable units, and so on, all of these have one thing in common they are all based on the 'refrigeration cycle' (explanation later) and use a refrigerant gas.

More so now than ever, air conditioners have come into their own, with the on-going threat of global warming. However, an air conditioner can do more than cooling your room or area, dual machines, can also supply heating, suitable to countries, or areas with mild winters. Additionally, air conditioners (as the name implies) perform another very import task, that of conditioning the air, by filtering out harmful particles such as, dust mites, pet dander, pollen, mold, bacteria, etc, all of which contribute to respiratory problems, especially those prone to asthma, or allergy attacks. The conditioner also removes excess humidity, adding to the comfort zone.

What an air conditioner does with regards to cooling an area or room, in simplistic terms, can be explained as follows, removal of unwanted heat in a room via a refrigerant gas and dumped outside to the atmosphere. So how does it do that! Well, let's start by taking a look at the outdoor unit, which consists of three main component parts, the compressor, the condenser, (which looks like the radiator of a car) and a fan motor.

The compressor compresses the returning gas vapor from the indoor unit, and passes it into the condenser, air is drawn by the fan motor across the condenser fins thus cooling the vapor allowing the heat to escape, the vapor condenses to a liquid, and the compressor then pumps the liquid via copper tubing towards the indoor unit, (evaporator) where the liquid expands from the small bore pipe into a much larger pipe bore, thus creating a pressure drop across the evaporator (which again looks like a radiator) the liquid quickly evaporates to a vapor, which creates a freezing effect, and again a fan motor blows the cooled/ freezing air out into the area to be cooled.

The "vapor" is sucked back by the compressor to the outdoor unit, (condensing unit) where the whole process starts over again. So there you have it, this then is known as the "refrigeration cycle'. It is worth bearing in mind, when choosing the exact location of the indoor unit, that a by-product of this activity is 'water' which must be piped either to an indoor drain, or to an outside drain or even a "flower bed". The amount of water, which is a result of the freezing effect is relatively small, and can be likened to a 'dripping faucet/tap.'

In summary, the benefits of air conditioning, are highly desirable, providing clean air for you and your family whilst at the same time creating a cool atmosphere in which to relax or work; very conducive to modern day living.

Article Source:
http://www.articleside.com/home-improvement-articles/what-is-an-air-conditioner-and-how-does-it-work.htm - Article Side

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Coolaire Consolidated, Inc. is your partner in a refrigeration such as truck refrigeration system, refrigerated truck body, reefers and air conditioning units.

Article Keywords:
refrigeration, air condition, air conditioning

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